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<u>IN THE CLAIMS:</u>

Please amend the claims as follows:

1-54. (cancelled)

55. (previously presented) A computer-readable medium storing a computer program for designing an HVAC system, the computer program comprising:

an input module configured to receive inputs corresponding to design elements, characterized by properties stored in records, the design elements being connectable to establish an HVAC system to be designed;

a design module operably connected to the input module and configured to operate on the inputs to create the records reflecting the properties of the design elements and interactions thereof to establish a design of the HVAC system;

the input module and design module, further configured to automatically provide multiple schematic representations of a selected design element, selected from the design elements, the multiple schematic representations reflecting distinct operational contexts of the selected design element, and to automatically maintain substantially complete and consistent information in the records, describing the properties of the selected design element in each of the distinct operational contexts; and

an output module configured to provide a user-interpretable output reflecting the design of the HVAC system.

56. (previously presented) The computer-readable medium of claim 55, wherein the computer program further comprises a user interface module configured to receive inputs from a

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user to control selection, relative positioning, and properties of design elements of the HVAC

system to be designed and configured to output to a user a graphical representation of the HVAC

system reflecting the selection, relative positioning, and properties of the design elements.

57. cancelled.

58. (previously presented) The computer-readable medium of claim 55, wherein the

input module further comprises a user interface module configured to:

receive inputs from a user to control selection, relative positioning, and properties of

design elements of the HVAC system to be designed, and

output to a user a graphical representation of the HVAC system reflecting the selection,

relative positioning, and properties of the design elements.

59. (previously presented) The computer-readable medium of claim 55, wherein the

operational contexts are selected from mass transport and energy transport.

60. (previously presented) The computer-readable medium of claim 59, wherein mass

transport includes at least one of air transport and water transport, and wherein energy transport

includes at least one of heating and cooling with respect to the selected design element.

61. (previously presented) The computer-readable medium of claim 55, wherein:

the selected design element comprises a product available from a vendor, independent

from the article, the product characterized by product properties corresponding thereto; and

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the design module further comprises a specification module, executable to assign the product properties as the properties of the selected design element.

62. (previously presented) The computer-readable medium of claim 61, wherein the computer program further comprises a product module configured to manage data reflecting the product properties.

63. (previously presented) The computer-readable medium of claim 62, wherein the product module further comprises an updating module configured to update the product properties

64. (previously presented) The computer-readable medium of claim 61, wherein the computer program further comprises a communication module configured to automatically establish communication between a user and the vendor of the product.

65. (previously presented) The computer-readable medium of claim 64, wherein the communication module is further configured to do at least one of making inquiries of the vendor, placing orders with the vendor, and downloading updated values of the product properties from the vendor.

66. (previously presented) The computer-readable medium of claim 55, wherein the computer program further comprises a load module configured to provide, to the input module, HVAC loading parameters required to be accommodated by the HVAC system design.

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67. (previously presented) The computer-readable medium of claim 66, wherein the computer program further comprises a CAD module configured to provide, to the input module, data reflecting a design of an edifice to be serviced by the design of the HVAC system.

68. (previously presented) The computer-readable medium of claim 67, wherein the computer program further comprises a product module configured to specify products available for sale and meeting requirements to be the design elements.

69. (currently amended) The computer-readable medium of claim 68, wherein the computer program further comprises a compensation module configured to identify monetary compensation due to a ~~user~~ a provider of the computer program from vendors of the products specified as design elements in the HVAC system design.

70. (previously presented) The computer-readable medium of claim 55, wherein the input module is further configured to interact with:

a CAD module provided by an independent third party to provide, to the input module, data reflecting a design of an edifice to be serviced by the design of the HVAC system;

a load module configured to receive outputs from the CAD module and provide, to the input module, HVAC loading parameters required to be met by the HVAC system design; and

a vendor module, provided by an independent vendor and configured to specify products available for sale and meeting the requirements to be the design elements.

71. (previously presented) The computer-readable medium of claim 55, wherein the output module is further configured to do at least one of generating reports, drawing schematic

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illustrations, providing schedules of components, and providing performance analyses reflecting

the design elements.

72. (currently amended) The computer-readable medium of claim 55 68, wherein the

product module further comprises a specification module configured to provide a detailed

specification for an arbitrary number of selected design elements.

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73. (previously presented) The computer-readable medium of claim 72, wherein:

the product module further comprises product data corresponding to products available from vendors to serve as the design elements, and

the specification module further comprises a filter module configured to sort the products by features thereof and priorities of the features, each selectable by a user, in order to automatically specify detailed parameters characterizing a product selected by a user to serve as the selected design element.

74. (currently amended) The computer-readable medium of claim 73, wherein the user interface module further comprises a selection module providing a palette of icons representing design elements selectable arbitrarily by a user and connectable to one another in a schematic work space to establish the HVAC system design.

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75. (currently amended) A method for designing an HVAC system, the method comprising:

providing a database having records and configured to manage values of properties corresponding to design elements corresponding to substantially all physical components and connections available for creating an HVAC system design;

providing a user interface configured to represent design elements arbitrarily selectable by a user and connectable to one another in a schematic to establish the HVAC system design;

providing, automatically, default values corresponding to the properties corresponding to the design elements;

selecting arbitrarily, from the design elements, by a user, an arbitrary number of selected design elements to be interconnected in the HVAC system design;

selecting, by a user, a relative location and interconnections corresponding to each ~~arbitrary~~ selected design element;

automatically providing multiple schematic representations of at least one of the selected design elements, the multiple schematic representations reflecting distinct operational contexts of the selected design elements;

calculating, automatically, values of properties characterizing the ~~arbitrary~~ selected design elements;

validating correctness of the interconnections and properties;

calculating performance parameters corresponding to the HVAC system design; and

providing drawings defining the HVAC system design for construction.

76. (previously presented) The method of claim 75, further comprising creating and outputting schedules specifying each of the arbitrarily selected design elements.

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77. (previously presented) The method of claim 76, further comprising providing a list of products and corresponding vendors meeting the performance parameters corresponding to the selected design elements.

78. (previously presented) The method of claim 77, further comprising automatically downloading from a vendor updated lists of products and corresponding properties.

79. (previously presented) The method of claim 75, further comprising obtaining, from a loads program, selected performance parameter requirements corresponding to the design elements.

80. (previously presented) The method of claim 79, further comprising:

providing an input module configured to support user selection of design elements; and

interacting the input module with the loads program to provide selected inputs automatically to the input module.

81. (previously presented) The method of claim 80, further comprising:

providing a CAD program to provide inputs, corresponding to a structure to be served by the HVAC design, into the loads program.

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82. (new) A computer-readable medium storing a computer program for designing an HVAC system, the computer program comprising:

an input module configured to receive inputs corresponding to design elements, characterized by properties stored in records, the design elements being connectable to establish an HVAC system to be designed;

a design module operably connected to the input module and configured to operate on the inputs to create the records reflecting the properties of the design elements and interactions thereof to establish a design of the HVAC system;

the input module and design module, further configured to automatically provide multiple schematic representations of a selected design element, selected from the design elements, the multiple schematic representations reflecting distinct operational contexts of the selected design element, the distinct operational contexts comprising a first operational context, representing the transport of mass, and a second operational context, representing the transport of energy.

the input and design module, further configured to automatically maintain substantially complete and consistent information in the records, describing the properties of the selected design element in each of the distinct operational contexts; and

an output module configured to provide a user-interpretable output reflecting the design of the HVAC system.